

Question #1 of 67

Question ID: 439327

A portfolio manager is constructing a portfolio of stocks and corporate bonds. The portfolio manager has estimated that stocks and corporate bond returns have daily standard deviations of 1.8% and 1.1%, respectively, and estimates a correlation coefficient of returns of 0.43. If the portfolio manager plans to allocate 35% of the portfolio to corporate bonds and the rest to stocks, what is the daily portfolio VAR (2.5%) on a percentage basis?

- A) 2.57%.
- B) 2.27%.
- C) 2.71%.
- D) 3.05%.

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Question ID: 439304

Which value at risk methodology is *most* subject to model risk?

- A) Monte Carlo simulation.
- B) Historical.
- C) Variance/covariance.
- D) Parametric.

Question #3 of 67

Question ID: 439317

A portfolio comprises 2 stocks: A and B. The correlation of returns of stocks A and B is 0.8. Based on the information below, compute the portfolio's annual VAR at a 5 percent probability level.

Stock	Value	$E(R)$	σ
A	\$75,000	12.0%	15.0%
B	\$25,000	10.8%	10.0%

- A) \$13,300.
- B) \$10,295.
- C) \$23,491.
- D) \$11,700.

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Question ID: 439337

Annual volatility: $\sigma = 20.0\%$						
Annual risk-free rate = 6.0%						
Exercise price (X) = 24						
Time to maturity = 3 months						
Stock price, S	\$21.00	\$22.00	\$23.00	\$24.00	\$24.75	\$25.00
Value of call, C	\$0.13	\$0.32	\$0.64	\$1.14	\$1.62	\$1.80
% Decrease in S	-16.00%	-12.00%	-8.00%	-4.00%	-1.00%	
% Decrease in C	-92.83%	-82.48%	-64.15%	-36.56%	-9.91%	
Delta ($\Delta C\% / \Delta S\%$)	5.80	6.87	8.02	9.14	9.91	

Alton Richard is a risk manager for a financial services conglomerate. Richard generally calculates the VAR of the company's equity portfolio on a daily basis, but has been asked to estimate the VAR on a weekly basis assuming five trading days in a week. If the equity portfolio has a daily standard deviation of returns equal to 0.65% and the portfolio value is \$2 million, the weekly dollar VAR (5%) is *closest* to:

- A) \$29,100.
- B) \$21,450.
- C) \$107,250.
- D) \$47,964.

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Question ID: 439310

A hedge fund portfolio has an expected return of 0.1 percent per day and a 5 percent probability 1-day value at risk (VAR) of \$909. Which of the following statement is the *best* descriptor of this information?

- A) The minimum loss for the worst 5% of the days is \$909.
- B) The maximum daily loss on the portfolio is \$909.
- C) The portfolio will earn more than \$909 only 5% of the time.
- D) The minimum daily loss on the portfolio is \$909.

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Question ID: 439293

A distribution of asset returns that has a significantly higher probability of obtaining large losses is described as:

- A) symmetrical.
- B) right skewed.
- C) left skewed.
- D) thin-tailed.

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Question ID: 439295

All of the following are examples of why returns distributions can deviate from the normal distribution **EXCEPT** the distributions:

- A) are skewed.
- B) are symmetrical.
- C) are fat tailed.
- D) have unstable parameters.

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Question ID: 439298

You wish to estimate VAR using a local valuation method. Which of the following are methods you might use?

- I. Historical simulation.
- II. The delta-normal valuation method.
- III. Monte Carlo simulation.
- IV. The grid Monte Carlo approach.

- A) I and II only.
- B) III and IV only.
- C) II only.
- D) I only.

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Question ID: 439309

Many analysts prefer to use Monte Carlo simulation rather than historical simulation because:

- A) computers can manipulate theoretical data much more quickly than historical data.
- B) past distributions cannot address changes in correlations or events that have not happened before.
- C) past data is often proprietary and difficult to obtain.
- D) it is much easier to generate the required variables.

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Question ID: 439326

The most important way in which the Monte Carlo approach to estimating operational VAR differs from the historical method and variance-covariance method is:

- A) its computational simplicity.
- B) its inability to account for non-linear risk structures.
- C) it involves repeatedly shocking a model of risk data to produce a range of potential losses.
- D) its heavy dependence on historical data.

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Question ID: 439362

All of the following are appropriate methods for addressing return aggregation in volatility forecasting methods **EXCEPT**:

- A) for well-diversified portfolios, the strong law of large numbers is required to estimate the volatility of the vector of aggregated returns.
 - B) the RiskMetrics™ approach creates a variance-covariance matrix that is estimated under the assumption that volatility is constant over time.
 - C) the historical standard deviation approach creates a variance-covariance matrix that is estimated under the assumption that all asset returns are normally distributed.
 - D) the historical simulation approach weights returns based on market values today, regardless of the actual allocation of positions K days ago.
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Question ID: 439340

One advantage of the Monte Carlo simulation approach over the historical method when calculating VAR is the simulation approach:

- A) incorporates flexibility in modeling price paths.
 - B) makes better use of computing power.
 - C) equates past performance to future results.
 - D) takes advantage of the normal distribution.
-

Question #13 of 67

Question ID: 439302

The accuracy of a value at risk (VAR) measure:

- A) is one minus the probability level.
 - B) is included in the statistic.
 - C) is complete because the process is deterministic.
 - D) can only be ascertained after the fact.
-

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Question ID: 439354

$I =$	0.96		
$K =$	100		
<i>Rank</i>	<i>Ten Lowest Returns</i>	<i>Number of Past Periods</i>	<i>Hybrid Weight</i>
1	-4.30%	7	0.0318
2	-3.90%	10	0.0282

3	-3.70%	15	0.0230
4	-3.50%	20	0.0187
5	-3.00%	17	0.0212
6	-2.90%	28	0.0135
7	-2.60%	32	0.0115
8	-2.50%	18	0.0203
9	-2.40%	55	0.0045
10	-2.30%	62	0.0034

The value at risk measure for the fifth percentile using the hybrid approach is closest to:

- A) -4.30%.
- B) -4.10%.
- C) -4.04%.
- D) -3.90%.

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Question ID: 439341

The price value of a basis point (PVBP) of a \$20 million bond portfolio is \$25,000. Interest rate changes over the next one year are summarized below:

<i>Change in Interest rates</i>	<i>Probability</i>
>+2.50%	1%
+2.00-2.49%	4%
0.00-1.99%	50%
-0.99-0.00%	40%
<-1.00%	5%

Compute VAR for the bond portfolio at 95 percent confidence level.

- A) \$12,500.
- B) \$2,750,000.
- C) \$5,000,000.
- D) \$2,500,000.

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Question ID: 439323

The minimum amount of money that one could expect to lose with a given probability over a specific period of time is the definition of:

- A) the coefficient of variation.
- B) delta.
- C) the hedge ratio.

D) value at risk (VAR).

Question #17 of 67

Question ID: 439294

Which of the following statements regarding fat-tail distributions is (are) TRUE?

A fat-tailed distribution:

- I. most likely results from time-varying volatility for the unconditional distribution.
- II. has a lower probability mass around one standard deviation from the mean than a normal distribution.
- III. has a lower probability mass around the mean than a normal distribution.
- IV. most likely results from time-varying means for the conditional distribution.

- A) II and IV.
- B) I and II.
- C) I and III.
- D) I only.

Questions #18-19 of 67

$\lambda = 0.97$

K = 150

Rank	Ten Lowest Returns	Number of Past Periods	Hybrid Weight	Hybrid Cumulative Weight
1	-4.10%	5	0.0268	0.0268
2	-3.80%	7	0.0253	0.0521
3	-3.50%	21	0.0165	0.0686
4	-3.20%	13	0.0210	0.0896
5	-3.10%	28	0.0133	0.1029
6	-2.90%	55	0.0059	0.1088
7	-2.80%	28	0.0133	0.1221
8	-2.60%	28	0.0133	0.1354
9	-2.55%	28	0.0133	0.1487
10	-2.40%	55	0.0059	0.1546

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Question ID: 439360

The VAR measure for the fifth percentile using the historical simulation approach is *closest* to:

- A) -2.70%.

- B) -3.90%.
- C) -3.10%.
- D) -3.80%.

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Question ID: 439361

The VAR measure for the fifth percentile using the hybrid approach is *closest* to:

- A) -3.82%.
 - B) -4.10%.
 - C) -3.10%.
 - D) -3.80%.
-

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Question ID: 439297

A large bank currently has a security portfolio with a market value of \$145 million. The daily returns on the bank's portfolio are normally distributed with 80% of the distribution lying within 1.28 standard deviations above and below the mean and 90% of the distribution lying within 1.65 standard deviations above and below the mean. Assuming the standard deviation of the bank's portfolio returns is 1.2%, calculate the VAR(5%) on a one-day basis.

- A) \$2.87 million.
 - B) \$2.23 million.
 - C) \$2.04 million.
 - D) cannot be determined from information given.
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Question #21 of 67

Question ID: 439319

Which of the following statements about value at risk (VAR) is **TRUE**?

- A) VAR is independent of probability level.
 - B) VAR decreases with lower confidence level.
 - C) VAR is not dependent on the choice of holding period.
 - D) VAR decreases with longer holding periods.
-

Question #22 of 67

Question ID: 439308

The VaR measure obtained from simulating data based on assumptions concerning the return distributions is called:

- A) Stochastic VaR.
 - B) Monte Carlo VaR.
 - C) Kurtotic VaR.
 - D) Prospective VaR.
-

Question #23 of 67

Question ID: 439329

The difference between a Monte Carlo simulation and a historical simulation is that a historical simulation uses randomly selected variables from past distributions, while a Monte Carlo simulation:

- A) uses a computer to generate random variables.
 - B) uses randomly selected variables from future distributions.
 - C) uses variables based on roulette odds.
 - D) projects variables based on *a priori* principles.
-

Question #24 of 67

Question ID: 439352

RiskMetrics uses the following value for the decay factor of daily data:

- A) 0.94.
 - B) 0.95.
 - C) 0.92.
 - D) 0.97.
-

Question #25 of 67

Question ID: 439350

Which of the following is (are) an advantage(s) of nonparametric methods compared to parametric methods for quantifying volatility?

- I. Nonparametric models require assumptions regarding the entire distribution of returns.
- II. Data is used more efficiently with nonparametric methods than parametric methods.
- III. Fat tails, skewness and other deviations from some assumed distribution are no longer a concern in the estimation process for nonparametric methods.
- IV. Multivariate density estimation (MDE) allows for weights to vary based on how relevant the data is to the current market environment by weighting the most recent data more heavily.

- A) III only.
 - B) III and IV.
 - C) I and II.
 - D) I and III.
-

Question #26 of 67

Question ID: 439328

A portfolio comprises 2 stocks: A and B. The correlation of returns of stocks A and B is 0.4. Based on the information below, what is the portfolio's value-at-risk (VAR) at a 5 percent probability level?

Stock	Value	$E(R)$	σ
A	\$85,000	15.0%	18.0%
B	\$15,000	12.0%	10.0%

- A) \$1,410.
- B) \$11,784.
- C) \$23,491.
- D) \$13,300.

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Question ID: 439334

If the one-day value at risk (VaR) of a portfolio is \$50,000 at a 95% probability level, this means that we should expect that in one day out of:

- A) 95 days, the portfolio will lose \$50,000.
- B) 20 days, the portfolio will decline by \$50,000 or less.
- C) 95 days, the portfolio will increase by \$50,000 or more.
- D) 20 days, the portfolio will decline by \$50,000 or more.

Question #28 of 67

Question ID: 439292

When comparing a fat-tailed distribution to an otherwise similar normal distribution, the fat-tailed distribution often has:

- A) a different mean and standard deviation.
- B) an equal probability mass close to the mean.
- C) a lower probability mass at more than three standard deviations.
- D) a lower probability mass at around one standard deviation.

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Question ID: 439336

An investor has 60 percent of his \$500,000 portfolio in Value fund and the remaining in Growth fund. The correlation of returns of the two funds is -0.20. Based on the information below, what is the portfolio's VAR at a 5 percent probability level?

Fund	$E(R)$	σ
Value	12%	14.0%

Growth	16%	20.0%
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- A) \$82,368.
 - B) \$17,635.
 - C) \$26,768.
 - D) \$49,824.
-

Question #30 of 67

Question ID: 439353

Which of the following statements regarding volatility in VAR models are TRUE? I. The RiskMetrics™ approach is very similar to the GARCH model. II. The historical standard deviation approach creates a variance-covariance matrix that is estimated under the assumption that all asset returns are normally distributed. III. The parametric approach typically assumes asset returns are normally or lognormally distributed with constant volatility. IV. Exponential smoothing methods and the historical standard deviation methods both apply a set of weights to recent past squared returns.

- A) II, III, and IV.
 - B) I, II, and IV.
 - C) I, III, and IV.
 - D) I, II, and III.
-

Question #31 of 67

Question ID: 439338

If a 1-day 95 percent VAR is \$5 million, the 250-day 99 percent VAR level would be *closest* to:

- A) \$111.79 million.
 - B) \$83.84 million.
 - C) \$55.89 million.
 - D) \$21.00 million.
-

Question #32 of 67

Question ID: 439305

Which of the following statements comparing Monte Carlo VaR and historical VaR is *most accurate*?

- A) Both are parametric approaches, but Monte Carlo VaR uses fewer inputs into the model than historical VaR.
- B) Both are parametric approaches, but historical VaR uses a regression on past data while Monte Carlo VaR uses Kalman filtering to create forward looking VaR estimates.
- C) Both compute VaR from percentiles from a given set of observed returns, but Monte Carlo VaR uses realized returns and historical VaR uses hypothetical returns.

- D) Both compute VaR from percentiles from a given set of observed returns, but historical VaR uses realized returns and Monte Carlo VaR uses hypothetical returns.

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Question ID: 439357

How many of the following statements about VAR methodologies is (are) TRUE?

- I. The parametric approach is typically defined by the calculation of the distribution mean and variance.
 - II. The nonparametric approach has the advantage of no required asset distribution.
 - III. The implied-volatility based approach estimates volatility using current market prices.
 - IV. The GARCH approach is a parametric model that uses time varying weights on historic returns to calculate distribution parameters.
- A) Three statements are true.
- B) Two statements are true.
- C) One statment is true.
- D) All statements are true.

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Question ID: 439313

Super Hedge fund has \$20 million in assets. The total return for the past 40 months is given below. What is the monthly value at risk (VAR) of the portfolio at a 5 percent probability level?

Monthly Returns							
-22.46%	9.26%	-4.69%	-20.66%	-2.77%	1.17%	-16.11%	-6.73%
0.57%	12.56%	-18.26%	-32.81%	24.15%	-34.26%	-5.49%	-19.76%
-34.75%	-12.02%	32.74%	-31.35%	13.68%	-31.13%	7.07%	-33.56%
-20.37%	30.27%	31.09%	-3.26%	-14.42%	4.75%	15.63%	-11.57%
7.23%	-20.77%	-19.61%	-2.42%	-30.59%	28.83%	-22.25%	-10.26%

- A) \$6,852,000.
- B) \$7,200,000.
- C) \$16,725,000.
- D) \$9,000,000.

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Question ID: 439330

An insurance company currently has a security portfolio with a market value of \$243 million. The daily returns on the company's portfolio are normally distributed with a standard deviation of 1.4%. Using the table below, determine which of the following statements are **TRUE**.

	Z _{critical}	
Alpha	One-tailed	Two-tailed
10%	1.28	1.65
2%	2.06	2.32

- I. One-day VAR(1%) for the portfolio on a percentage basis is equal to 3.25%.
- II. One-day VAR(10%) for the portfolio on a dollar basis is equal to \$5.61 million.
- III. One-day VAR(6%) > one-day VAR(10%).

- A) I and III only.
- B) I only.
- C) I, II, and III.
- D) II and III only.

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Question ID: 439314

A \$2 million balanced portfolio is comprised of 40 percent stocks and 60 percent intermediate bonds. For the next year, the expected return on the stock component is 9 percent and the expected return on the bond component is 6 percent. The standard deviation of the stock component is 18 percent and the standard deviation of the bond component is 8 percent. What is the annual VAR for the portfolio at a 1 percent probability level if the correlation between the stock and the bond component is 0.25?

- A) \$149,500.
- B) \$303,360.
- C) \$126,768.
- D) \$152,250.

Question #37 of 67

Question ID: 439333

Value at risk (VAR) is a benchmark associated with a given probability. The actual loss:

- A) is expected to be the average of the expected return of the portfolio and VAR.
- B) may be much greater.
- C) will have an inverse relationship with VAR.
- D) cannot exceed this amount.

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Question ID: 439312

Tim Jones is evaluating two mutual funds for an investment of \$100,000. Mutual fund A has \$20,000,000 in assets, an annual expected return of 14 percent, and an annual standard deviation of 19 percent. Mutual fund B has \$8,000,000 in assets, an annual expected return of 12 percent, and an annual standard deviation of 16.5 percent. What is the daily value at risk (VAR) of

Jones' portfolio at a 5 percent probability if he invests his money in mutual fund A?

- A) \$1,924.
 - B) \$1,668.
 - C) \$13,344.
 - D) \$38,480.
-

Question #39 of 67

Question ID: 439339

For a \$1,000,000 stock portfolio with an expected return of 12 percent and an annual standard deviation of 15 percent, what is the VAR with 95 percent confidence level?

- A) \$127,500.
 - B) \$150,000.
 - C) \$120,000.
 - D) \$247,500.
-

Question #40 of 67

Question ID: 439356

Which of the following approaches is the *most* restrictive regarding the underlying assumption of the asset return distribution?

- A) multivariate density estimation.
 - B) hybrid.
 - C) nonparametric.
 - D) parametric.
-

Question #41 of 67

Question ID: 439291

Which of the following deviations from normality always leads to underestimating the distribution variance?

- I. Higher probability of high returns.
 - II. Higher probability of mean returns.
 - III. The mean of the distribution is conditional on the economic environment.
 - IV. The variance of the distribution is conditional on the economic environment.
-
- A) III and IV only.
 - B) III only.
 - C) II only.
 - D) I, II, and IV only.
-

Question #42 of 67

Question ID: 439331

When would a Monte Carlo simulation be preferable to a historical simulation?

- A) Historical data does not produce favorable results.
 - B) There is only a small amount of historical data.
 - C) Insufficient computer capacity.
 - D) A large amount of historical data is available.
-

Question #43 of 67

Question ID: 439358

Using both RiskMetrics and historical standard deviation, calculate the K-value that equates the most recent weight between the two models. Assume λ is 0.98.

- A) $K = 30$.
 - B) $K = 51$.
 - C) $K = 98$.
 - D) $K = 50$.
-

Question #44 of 67

Question ID: 439311

If the expected change in a fixed income portfolio is \$520,000 and the standard deviation of the estimated change in the portfolio is \$2,275,500, the 95 percent value-at-risk (VAR) for this portfolio is *closest* to:

- A) \$3,743,197.50.
 - B) \$855,400.00.
 - C) \$4,598,597.50.
 - D) \$3,223,197.50.
-

Question #45 of 67

Question ID: 439332

Which of the following statements *most* accurately describes the pitfalls of VAR estimation methods?

- I. The Monte Carlo simulation method is subject to model risk.
- II. The historical simulation method is subject to time-variation risk.
- III. The delta-normal method will underestimate the VAR for fat-tailed distributions.

- A) I, II and III.
 - B) I only.
 - C) I and II.
 - D) II and III.
-

Question #46 of 67

Question ID: 439300

Hugo Nelson is preparing a presentation on the attributes of value at risk. Which of Nelson's following statements is not correct?

- A) VAR(1%) can be interpreted as the number of days that a loss in portfolio value will exceed 1%.
 - B) VAR can account for the diversified holdings of a financial institution, reducing capital requirements.
 - C) VAR was developed in order to more closely represent the economic capital necessary to ensure commercial bank solvency.
 - D) VAR(10%) = \$0 indicates a positive dollar return is likely to occur on 90 out of 100 days.
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Question #47 of 67

Question ID: 439301

A portfolio manager determines that his portfolio has an expected return of \$20,000 and a standard deviation of \$45,000. Given a 95 percent confidence level, what is the portfolio's VAR?

- A) \$94,250.
 - B) \$43,500.
 - C) \$54,250.
 - D) \$74,250.
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Question ID: 439320

The Westover Fund is a portfolio consisting of 42 percent fixed income investments and 58 percent equity investments. The manager of the Westover Fund recently estimated that the annual VAR(5 percent), assuming a 250-day year, for the entire portfolio was \$1,367,000 based on the portfolio's market value of \$12,428,000 and a correlation coefficient between stocks and bonds of zero. If the annual loss in the equity position is only expected to exceed \$1,153,000 5 percent of the time, then the daily expected loss in the bond position that will be exceeded 5 percent of the time is *closest* to:

- A) \$46,445.
 - B) \$55,171.
 - C) \$21,163.
 - D) \$72,623.
-

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Question ID: 439325

The price value of a basis point (PVBP) of a bond portfolio is \$45,000. Expected changes in interest rates over the next year are summarized below:

<i>Change in Interest rates</i>	<i>Probability</i>
>+1.50%	1%
+1.00-1.49%	29%
0.00-0.99%	20%
-0.99-0.00%	45%

<-1.00%	5%
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What is the value at risk (VAR) for the bond portfolio at a 99 percent confidence level?

- A) \$7,850,500.
- B) \$4,500,000.
- C) \$2,250,000.
- D) \$6,750,000.

Question #50 of 67

Question ID: 439349

Which of the following are true about the RiskMetrics, GARCH, and historical standard deviation approaches to estimate conditional volatility?

- I. RiskMetrics and historical standard deviation assume equal weights on all observations.
- II. RiskMetrics and GARCH are parametric models: historical standard deviation is not.
- III. A decreasing λ suggests a higher relative weight on the most recent data for exponential smoothing models.
- IV. The most recent weight for GARCH exceeds the most recent weight for historical standard deviation, assuming the same high number of observations.

- A) II, III, and IV only.
- B) III and IV only.
- C) I, II, and IV only.
- D) II and III only.

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Question ID: 439355

The historical standard deviation approach differs from the RiskMetrics™ and GARCH approaches for estimating conditional volatility, because it:

- A) applies a set of weights to past squared returns.
- B) uses recent historical data.
- C) places a lower weight on more recent data.
- D) is a parametric method.

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Question ID: 492008

Kiera Reed is a portfolio manager for BCG Investments. Reed manages a \$140,000,000 portfolio consisting of 30 percent European stocks and 70 percent U.S. stocks. If the VAR(1%) of the European stocks is 1.93 percent, or \$810,600, the VAR(1%) of U.S. stocks is 2.13 percent, or \$2,087,400, and the correlation between European and U.S. stocks is 0.62, what is the portfolio VAR(1%) on a percentage and dollar basis?

- A) 2.07% and \$2.67 million.
- B) 1.90% and \$2.67 million.
- C) 1.90% and \$2.90 million.
- D) 2.07% and \$2.90 million.

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Question ID: 439307

On December 31, 2006, Portfolio A had a market value of \$2,520,000. The historical standard deviation of daily returns was 1.7%. Assuming that Portfolio A is normally distributed, calculate the daily VAR(2.5%) on a dollar basis and state its interpretation. Daily VAR(2.5%) is equal to:

- A) \$83,966, implying that daily portfolio losses will only exceed this amount 2.5% of the time.
- B) \$83,966, implying that daily portfolio losses will fall short of this amount 2.5% of the time.
- C) \$70,686, implying that daily portfolio losses will fall short of this amount 2.5% of the time.
- D) \$70,686, implying that daily portfolio losses will only exceed this amount 2.5% of the time.

Question #54 of 67

Question ID: 439299

Annual volatility: $\sigma = 20.0\%$						
Annual risk-free rate = 6.0%						
Exercise price (X) = 24						
Time to maturity = 3 months						
Stock price, S	\$21.00	\$22.00	\$23.00	\$24.00	\$24.75	\$25.00
Value of call, C	\$0.13	\$0.32	\$0.64	\$1.14	\$1.62	\$1.80
% Decrease in S	-16.00%	-12.00%	-8.00%	-4.00%	-1.00%	
% Decrease in C	-92.83%	-82.48%	-64.15%	-36.56%	-9.91%	
Delta ($\Delta C\% / \Delta S\%$)	5.80	6.87	8.02	9.14	9.91	

Suppose that the stock price is currently at \$25.00 and the 3-month call option with an exercise price of \$24.00 is \$1.60. Using the linear derivative VAR method and the information in the above table, what is a 5% VAR for the call option's weekly return?

- A) 43.4%.
- B) 45.3%.
- C) 21.6%.
- D) 50.7%.

Question #55 of 67

Question ID: 439303

Which of the common methods of computing value at risk relies on the assumption of normality?

- A) Variance/covariance.
 - B) Monte Carlo simulation.
 - C) Historical.
 - D) Rounding estimation.
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Question #56 of 67

Question ID: 439318

Which of the following statements about value at risk (VAR) is **TRUE**?

- A) VAR decreases with lower probability levels.
 - B) VAR increases with longer holding periods.
 - C) VAR is independent of probability level.
 - D) VAR is not dependent on the choice of holding period.
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Question #57 of 67

Question ID: 439321

Derivation Inc. has a portfolio of \$100 MM. The expected return over one year is 6 percent, with a standard deviation of 8 percent. What is the VAR for this portfolio at the 99 percent confidence level?

- A) \$12.6 MM.
 - B) \$12.1 MM.
 - C) \$7.2 MM.
 - D) \$2.0 MM.
-

Question #58 of 67

Question ID: 439335

Portfolio A has total assets of \$14 million and an expected return of 12.50 percent. Historical VAR of the portfolio at 5 percent probability level is \$2,400,000. What is the portfolio's standard deviation?

- A) 12.50%.
 - B) 14.65%.
 - C) 15.75%.
 - D) 17.97%.
-

Question #59 of 67

Question ID: 439296

A regime-switching volatility model of interest rates would assume all of the following **EXCEPT**:

- A) the unconditional distribution of interest rates is normally distributed.
 - B) the regime determines whether the volatility of interest rates is high or low.
 - C) interest rates are conditionally normally distributed.
 - D) the mean is constant.
-

Questions #60-61 of 67

Communities Bank has a \$17 million par position in a bond with the following characteristics:

- The bond is a 7-year, zero-coupon bond.
- The market value is \$12,358,674.
- The bond is trading at a yield to maturity of 4.6%.
- The historical mean change in daily yield is 0.0%.
- The standard deviation of the position is 1%.

Question #60 of 67

Question ID: 439344

The one-day VAR for this bond at the 95% confidence level is *closest* to:

- A) \$260,654.
- B) \$339,487.
- C) \$203,918.
- D) \$105,257.

Question #61 of 67

Question ID: 439345

The 10-day VAR on this bond is *closest* to:

- A) \$866,111.
 - B) \$644,845
 - C) \$736,487.
 - D) \$487,698.
-

Question #62 of 67

Question ID: 439324

Alto Steel's pension plan has \$250 million in assets with an expected return of 12 percent. The last thirty monthly returns are given below.

What is the 10 percent monthly probability VAR for Alto's pension plan?

21.84%	-21.50%	31.76%	8.88%	2.54%	17.44%
6.97%	10.00%	2.71%	35.66%	31.07%	18.56%
9.82%	-7.94%	-0.78%	12.57%	11.77%	8.47%
2.99%	14.35%	14.20%	9.81%	11.03%	22.25%
9.68%	19.55%	8.53%	39.45%	36.15%	10.97%

- A) \$36,125,850.
- B) \$3,000,000.
- C) \$1,950,000.
- D) \$1,200,000.

Question #63 of 67

Question ID: 439306

Which of the following statements about value at risk (VAR) is **TRUE**?

- A) VAR decreases with longer holding periods.
- B) VAR increases with lower significance levels.
- C) VAR is not dependent on the choice of holding period.
- D) VAR is independent of probability level.

Question #64 of 67

Question ID: 439322

A global portfolio is comprised of European and Emerging market equities. The correlation of returns for the two sectors is 0.3. Based on the information below, what is the portfolio's annual value at risk (VAR) at a 5 percent probability level?

Stock	Value	$E(R)$	σ
European	\$800,000	9.0%	15.0%
Emerging	\$200,000	18.0%	25.0%

- A) \$128,280.
- B) \$110,700.
- C) \$130,300.
- D) \$230,491.

Question #65 of 67

Question ID: 439342

Which of the following are advantages of nonparametric methods compared to parametric methods for quantifying volatility?

- I. Nonparametric models require assumptions regarding the entire distribution of returns.
- II. Data is used more efficiently with nonparametric methods than with parametric methods.
- III. Fat tails, skewness, and other deviations from some assumed distribution are no longer a concern in the estimation process

for nonparametric methods.

IV. Multivariate density estimation (MDE) allows for weights to vary based on how relevant the data is to the current market environment by weighting the most recent data more heavily.

- A) III only.
- B) I and II.
- C) I and III.
- D) III and IV.

Question #66 of 67

Question ID: 439351

Consider the following EWMA models that are used to estimate daily return volatility. Which model's volatility estimates will have the most day-to-day volatility, and which model will be the slowest to respond to new data, respectively?

Model 1: $\sigma_n^2 = 0.04\mu_{n-1}^2 + 0.96\sigma_{n-1}^2$

Model 2: $\sigma_n^2 = 0.02\mu_{n-1}^2 + 0.98\sigma_{n-1}^2$

Model 3: $\sigma_n^2 = 0.20\mu_{n-1}^2 + 0.80\sigma_{n-1}^2$

Model 4: $\sigma_n^2 = 0.10\mu_{n-1}^2 + 0.90\sigma_{n-1}^2$

Greatest day-to-day
volatility

Slowest to respond to
new data

- | | |
|------------|---------|
| A) Model 3 | Model 2 |
| B) Model 1 | Model 4 |
| C) Model 2 | Model 3 |
| D) Model 2 | Model 2 |

Question #67 of 67

Question ID: 439315

If a 10-day VAR is \$15,000,000, the 250-day VAR, assuming no change in confidence level, would be:

- A) \$237,000,000.
- B) \$23,700,000.
- C) \$7,500,000.
- D) \$75,000,000.